CLAIMS

1. A fabric comprising a plurality of substantially parallel, coaxially aligned tow groups, each of said tow group having one or more tows wherein a portion of said tow groups contain two or more tows, and wherein the spacing between tows in a tow group is less than the spacing between adjacent tow groups.

2. The fabric of claim 1, wherein said adjacent tow groups contain an even number of tows.

3. The fabric of claim 1, wherein said adjacent tow groups contain an odd number of tow(s).

4. The fabric of claim 1, wherein said fabric comprises reinforced composite material.

5. The fabric of claim 1, wherein the spacing between the adjacent tow groups defines a flow channel.

6. The fabric of claim 1, wherein said tows are stitched together.

7. The fabric of claim 1, wherein the spacing between the adjacent tow groups is between about 0.155 to about 1.28 centimeters.

8. The fabric of claim 1, wherein said fabric is a crimp-free fabric.

9. The fabric of claim 1, wherein said yield of each of said tows is between about 52 to about 450 yards/pound.

10. The fabric of claim 9, wherein said yield of each of said tows is between about 52 to about 350 yards/pound.

11. The fabric of claim 10, wherein said yield of each of said tows is between about 150 to about 220 yards/pound.

12. The fabric of claim 1, wherein said fabric is a unidirectional fabric.

13. The fabric of claim 1, wherein said fabric is a biaxial fabric.

14. The fabric of claim 1, wherein said fabric is a triaxial fabric.

15. The fabric of claim 1, wherein said fabric is a quadaxial fabric.

16. The fabric of claim 1, wherein said tows comprise composite fibers selected from the group consisting of glass and thermoplastic.

17. A method of making a fabric comprising the steps of:

a. providing a plurality of substantially parallel tow groups, each of said tow group containing one or more tows wherein a portion of said tow groups contain two or more tows;

b. coaxially aligning said tow groups; and

c. providing a space between said at least two of said tow groups, wherein the spacing between tows in a tow group is less than the spacing between adjacent tow groups.

18. The method of claim 17, wherein said plurality tow groups are stitched together.

19. The method of claim 17, wherein said fabric is a crimp-free fabric.

20. The method of claim 17, wherein said yield of each of said tows is between about 150 to about 500 yards/pound.

21. The method of claim 20, wherein said yield of each of said tows is between about 150 to about 250 yards/pound.

22. The method of claim 21, wherein said yield of each of said tows is between about 190 to about 220 yards/pound.

23. The method of claim 17, wherein said fabric is a unidirectional fabric.

24. The method of claim 17, wherein said fabric is a biaxial fabric.

25. The method of claim 17, wherein said fabric is a triaxial fabric.

26. The method of claim 17, wherein said fabric is a quadaxial fabric.

27. The method of claim 17, wherein the spacing between the adjacent tow groups is between about 0.155 to about 1.28 centimeters

28. The method of claim 17, wherein the spacing between the adjacent tow groups defines a flow channel.

29. The method of claim 17, further comprising the step of infusing said fabric with resin using a resin transfer molding process.

30. The method of claim 17, further comprising the step of infusing said fabric with resin using a vacuum assisted resin transfer molding system.

31. The method of claim 30, wherein said fabric is infused with a resin selected from the group consisting of polyesters and copolyesters.

32. The method of claim 31, wherein said polyesters are selected from the group consisting of polyethylene terephthalate, polyamides, polyolefins, and polypropylene.

33. The method of claim 30, wherein said fabric is infused with a resin selected from the group consisting of polyesters and copolyesters.

34. The method of claim 33, wherein said polyesters are selected from the group consisting of polyethylene terephthalate, polyamides, polyolefins, and polypropylene.